

1 Amendments to the Claims:

2 This listing of claims will replace all prior versions, and
3 listings, of claims in the application using (Original) (Currently
4 Amended) (New) (Canceled) (Previously Presented) nomenclature, as
5 recited in the below listing of claims.

6
7 1. (Canceled)

8
9 2. (Currently Amended) A system for communicating an analog input
10 signal as a modulated binary laser signal over an optical
11 communication medium recovered as a digital output signal, the
12 system comprising,

13 a sigma delta modulator for receiving the analog input signal
14 and modulating the analog signal into a modulated symbol signal,
15 a transmitter for converting the modulated symbol signal into
16 the modulated binary laser signal, and for transmitting the
17 modulated binary laser signal over the optical communication
18 medium, the modulated binary laser signal having a pulse width
19 having a duration representative of the analog input signal,

20 a receiver for receiving and detecting the pulse width of
21 modulated binary laser signal for providing a received symbol
22 signal, and

23 a digital filter for filtering the symbol signal into
24 the digital output signal, ~~The system of claim 1~~

25 wherein the transmitter comprises,

26 a symbol to binary converter for converting the modulated
27 symbol signal from the sigma delta modulator into a converted
28 digital signal, and

1 a pulse width modulator for modulating the laser signal by the
2 converted digital signal into the modulated binary laser signal as
3 a pulse width binary modulated laser signal communicated over the
4 optical communication medium.

5
6 3. (Original) The system of claim 2 wherein the receiver comprises,
7 a pulse width detector receiving the pulse width modulated
8 binary laser signal and for providing a detected binary signal, and
9 a binary to symbol converter for converting the detected binary
10 signal into the received symbol signal.

11
12 4. (Previously Presented) The system of claim 3 wherein,
13 the pulse width detector is a pulse width quantizer detector,
14 the detected binary signal is a detected quantized signal, and
15 the binary to symbol converter converts the detected quantized
16 signal into the received symbol signal.

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18 5. (Currently Amended) The system of claim 1 2 further comprising,
19 a timing recovery loop for generating a timing signal from the
20 receive symbol signal for clocking the digital filter.

21
22 6. (Currently Amended) The system of claim 1 2 wherein,
23 the sigma delta modulator is a first order sigma delta
24 modulator.

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26 7. (Currently Amended) The system of claim 1 2 wherein,
27 the sigma delta modulator is a second order sigma delta
28 modulator.

1 8. (Currently Amended) The system of claim ~~1~~ 2 wherein the optical
2 communication medium is selected from the group consisting of free
3 space and a fiber optic.

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5 9. (Canceled)

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7 10. Canceled)

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9 11. (Canceled)

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11 12. (Currently Amended) The system of claim ~~1~~ 2 wherein the
12 modulated ~~digital~~ binary laser signal is communicated over the
13 optical communication medium without the use of frame words.

14
15 13. (Currently Amended) The system of claim ~~11~~ 21 wherein the
16 modulated ~~digital~~ binary laser signal is communicated over the
17 optical communication medium without the use of frame words.

18
19 14. (Currently Amended) The system of claim ~~1~~ 2 wherein,
20 the modulated ~~digital~~ binary laser signal is a pulse having a
21 pulse width indicating the analog input signal, and
22 the pulse is a laser pulse communicated over the optical
23 communication medium.

24
25 15. (Canceled)

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1 16. (Currently Amended) The system of claim ~~11~~ 21 wherein the
2 optical communication medium is selected from the group consisting
3 of free space and a fiber optic.

4
5 17. (Currently Amended) The system of claim ~~1~~ 3 wherein the
6 receiver comprises,

7 a pulse width detector for detecting the pulse width of the
8 modulated binary laser signal laser pulses of the communicated
9 signal and provides binary values,

10 a binary to symbol converter for changing the binary values
11 from the pulse width detector into symbols, the digital filter for
12 filtering the symbols for providing a clocked digital output
13 signal, the digital filter filtering a continuous stream of
14 symbols.

15
16 18. (Previously Presented) The system of claim 17 further
17 comprising,

18 a timing recovery loop for receiving the symbols and for
19 clocking the digital filter for providing the clocked digital
20 output signal.

21
22 19. (Previously Presented) The system of claim 18 wherein,

23 the timing recovery loop recovers from the symbols a sample
24 rate to provide a clock signal to the digital filter, and

25 the clocked digital output is an n bit digital sample of the
26 analog input signal, the digital filter filtering a continuous
27 stream of symbols.

1 20. (Previously Presented) The system of claim 19 wherein,

2 the system does not use parallel to serial conversion, frame
3 synchronization, data reclocking, forward error correction, or
4 significant bit reordering for generating the clocked digital
5 output signal.

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7
8 21. (Currently Amended) A system for communicating an analog input
9 signal as a pulse width modulated binary laser signal over an
10 optical communication medium recovered as a digital output signal,
11 the system comprising

12 a sigma delta modulator for receiving the analog input signal
13 and modulating the analog signal into a modulated symbol signal,

14 a transmitter for converting the modulated symbol signal into
15 a converted digital signal for pulse width modulating a laser
16 signal into the pulse width modulated binary laser signal, and for
17 transmitting the pulse width modulated binary laser signal over the
18 optical communication medium, the modulated binary laser signal
19 having a pulse width having a duration representative of the analog
20 input signal, the modulated binary laser signal being transmitted
21 through the optical communication medium,

22 a receiver for receiving and detecting the pulse width of the
23 pulse width modulated binary laser signal to provide a detected
24 binary signal and for converting the detected binary signal into a
25 received symbol signal, and

26 a digital filter for filtering the symbol signal into
27 the digital output signal, ~~The system of claim 11~~

28 wherein the receiver comprises,

1 a pulse width detector for detecting the duration of the pulse
2 width of the modulated binary laser signal laser pulses of the
3 communicated signal and provides binary values, and

4 a binary to symbol converter for changing the binary values
5 from the pulse width detector into symbols, the digital filter for
6 filtering the symbols for providing a clocked digital output
7 signal.

8
9 22. (Previously Presented) The system of claim 21 further
10 comprising,

11 a timing recovery loop for clocking the digital filter for
12 providing the clocked digital output signal,

13 wherein,

14 the timing recovery loop recovers from the symbols a sample rate
15 to provide a clock signal to the digital filter, and

16 the clocked digital output is an n bit digital sample of the
17 analog input signal.

18
19 23. (Previously Presented) The system of claim 22 wherein,

20 the system does not use parallel to serial conversion, frame
21 synchronization, data reclocking, forward error correction, or
22 significant bit reordering for generating the clocked digital
23 output signal.

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